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PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

19 JAN 2005

To:

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R 06. OKT. 2004

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing *(day/month/year)*	04.10.2004
Applicant's or agent's file reference 2002DE120	**IMPORTANT NOTIFICATION**

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/IB 03/03446	17.07.2003	19.07.2002

Applicant
CLARIANT GMBH

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.

2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.

3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international preliminary examining authority:	Authorized Officer
European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Walli, K Tel. +49 89 2399-6060

Form PCT/IPEA/416 (January 2004)

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2002DE120	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/IB 03/03446	International filing date *(day/month/year)* 17.07.2003	Priority date *(day/month/year)* 19.07.2002
International Patent Classification (IPC) or both national classification and IPC C08J3/12		
Applicant CLARIANT GMBH		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the opinion
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
12.12.2003	04.10.2004
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Vaccaro, E Telephone No. +49 89 2399-6049

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/IB 03/03446

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

Description, Pages

1-23 as originally filed

Claims, Numbers

1-12 received on 07.08.2004 with letter of 04.08.2004

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).

   ☐ the language of publication of the international application (under Rule 48.3(b)).

   ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   ☐ contained in the international application in written form.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority in written form.

   ☐ furnished subsequently to this Authority in computer readable form.

   ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐ the description, pages:

   ☐ the claims, Nos.:

   ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

   (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-12
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-12
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-12
	No:	Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

D1: WO 02/41325 A (PLASTOMER PRODUCTS DIVISION) 23 May 2002 (2002-05-23)

D2: EP-A-0 455 092 (UNION CARBIDE CHEM PLASTIC) 6 November 1991 (1991-11-06)

1. D1 discloses a method for distributing a substance in another (example 1). The present application differs from D1 in that the two substances are dissolved in one another (claim 1). Although both documents solve the same technical problem, that is, the uniform dispersion of one additive in a polymer, D1 teaches a method for dispersing an additive in a fluoropolymer by milling both components to micropowder and sintering them together. The method of the present application entails the dissolution of the additive in the polymer, this is not suggested not hinted in D1, which deals only with (unmeltable) fluoropolymers. Therefore, the subject-matter of claims 1-12 appears to be new and inventive over D1 according to Art. 33(2) and (3) PCT.

2. D2 discloses a method for dispersing an additive in a polymer, by making a suspension of additive and polymer in a fluid. Dispersion of an additive in a polymer by dry mixing is also cited as comparative example in D2 (see examples 21, 22 and 24). However, there is nowhere in D2 a cue that would lead the skilled person to arrive to the subject-matter of the present application, when faced with the technical problem of dissolving an additive in a polymer. Thus, the subject-matter of claims 1-12 appears to also be new and inventive over D2 according to Art. 33(2) and (3) PCT.

CLAIMS

1. Method of uniformly distributing a substance or mixture of substances in form of a micropowder (referred to as A) having a particle size < 50 µm in a carrier or substrate or in a mixture of different carriers or substrates (referred to as B), having a particle size <5 mm characterized in that A having a particle size distribution D_{90}<50 µm and D_{50}<20 µm is applied uniformly to the surface of the substrate B and the mixture of A and B is subjected to a shape conversion operation in that the substance A is dissolved in the substrate B with pressure and/or temperature, the viscosity during the operation being at least 50 mPas*s.

2. Method according to Claim 1, characterized in that the size ratio of the substance A to the substrate B is <1:20, preferably <1:50, more preferably <1:100.

3. Method according to Claim 1, characterized in that the substance A has a particle size <10 µm.

4. Method according to Claim 1, characterized in that the substance A has a particle size distribution D_{90}<30 µm and D_{50}<10 µm.

5. Method according to Claim 1, characterized in that the substrate B has a particle size <1 mm.

6. Method according to Claim 1, characterized in that the viscosity of the mixture of A and B is at least 500 mPas*s.

7. Micropowder as used in the method according to claim 1-6, wherein A is a plastics additive.

8. Micropowder according to claim 7, wherein the plastics additive is one from the class of the HALS.

9. Method of producing micronized plastics additives (micropowder) as of claim 7 and mixtures thereof, characterized in that the plastics additives and, respectively, their mixtures are produced by grinding a coarser form or by direct production by means of crystallization or by spraying.

10. Method according to claim 9, characterized in that a coarse powder is converted to the desired particle size by means of air jet mill.

11. Use of a micropowder according to claims 7 or 8 for incorporation into polymeric substrates.

12. Use of a micropowder according to claim 11, wherein the polymeric substrate is a polyolefin.